Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A memory device storing a data structure for tracking network behavior, comprising:

a connection table that maps each node of a network to a record [object] that stores information about traffic to or from the node and between that node and others nodes in the network.

2. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by source address.

3. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by destination address.

4. (original) The device of claim 1 wherein the connection table includes a plurality of records that are indexed by time.

5. (Currently Amended) The device of claim 1 wherein the connection table includes a plurality of records, that are record objects, which that are indexed by source address, destination address and time.

6. (original) The device of claim 1 wherein the connection table is a plurality of connection sub-tables each sub-table having data pertaining to network traffic over different time scales.

7. (Currently Amended) The device of claim ~~1~~ 6 wherein the connection sub-tables include a time-slice connection table that operates on a small unit of time and at least one other sub-table that operates on a larger unit of time than the time slice sub-table.

8. (original) The device of claim 7 wherein the at one sub-table holds records received from all collectors over the time scale of the table.

9. (original) The device of claim 5 wherein the addresses indexing the connection table are IP addresses.

10 (Previously Presented) The device of claim 1 wherein the addresses indexing the connection table include a physical layer address to IP address map that is used to determine Host ID.

11. (Currently Amended) The device of claim 1 wherein the host record of a first host maps that first host to a second host that communicates with the first host to a [["]]host pair record object[["]] that has information about all the traffic from the first to the second host and from the second host to the first host.

12. (Previously Presented) The device of claim 1 wherein the connection table includes two level mapping that enables a consuming device to obtain summary information about one host for a first level mapping and about the traffic between any pair of hosts, in either direction, between a first one of the hosts of the any pair to a second one of the hosts of the any pair and from the second one of the hosts of the any pair to the first one of the hosts of the any pair for a second level mapping.

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13. (Currently Amended) The device of claim 1 wherein <u>the connection table comprises a plurality of host records,</u> a <u>host</u> record stores a measure of the number of bytes, packets, and connections that occurred between hosts during a ~~given~~ time-period.

14. (Currently Amended) The device of claim ~~1~~ <u>13</u> wherein data in the <u>host</u> record is organized by well known transport protocols and well-known application-level protocols.

15. (Currently Amended) The device of claim ~~1~~ <u>13</u> wherein host records have no specific memory limit.

16. (original) The device of claim 1 wherein for application-level protocols and for every pair of hosts, the connection table stores statistics for traffic between the hosts.

17. (original) The device of claim 16 wherein the connection table stores protocol-specific records as (protocol, count) key-value pairs.

18. (New) A memory device storing a data structure for tracking network behavior, the data structure comprising:

    a connection table that maps each node of a network to a record that stores connection information about traffic to or from the node and between that node and others nodes that have connections with the node in the network, the connection table indexed according to at least a first one of source address, destination address and time;

    the connection table further including in the records fields for storing statistical information for traffic between the hosts.

20. (New) The device of claim 18 wherein the plurality of records is record objects.

21. (New) The device of claim 18 wherein the connection table is a second plurality of connection sub-tables, each sub-table having data pertaining to network traffic over different ones of corresponding second plurality of time scales.

22. (New) The device of claim 18 wherein the connection sub-tables include a time-slice connection table that operates on a small unit of time and at least one other sub-table that operates on a larger unit of time than the time slice sub-table.

23. (New) The device of claim 18 wherein the at one sub-table holds records received from all collectors in the network over the time scale of the table.

24. (New) The device of claim 18 wherein the addresses indexing the connection table are IP addresses.

25. (New) The device of claim 24 wherein the addresses indexing the connection table include a physical layer address to IP address map that is used to determine Host ID.

26. (New) The device of claim 18 wherein the host record of a first host maps that first host to a second host that communicates with the first host to a host pair record that has information about all the traffic from the first to the second host and from the second host to the first host.

27. (New) The device of claim 1 wherein the connection table includes two level mapping that enables a consuming device to obtain summary information about one host for a first level mapping and about the traffic between any pair of hosts, in either direction, between a first one of the hosts of the any pair to a second one of the hosts of the any pair and from the second one of the hosts of the any pair to the first one of the hosts of the any pair for a second level mapping.

28. (New) The device of claim 18 wherein the connection table comprises a plurality of host records, a host record stores, a measure of the number of bytes, packets, and connections that occurred between hosts during a time-period.

29. (New) The device of claim 28 wherein data in the host record is organized by well known transport protocols and well-known application-level protocols.

30. (New) The device of claim 29 wherein for application-level protocols and for every pair of hosts, the connection table stores statistics for traffic between the hosts.

31. (New) The device of claim 29 wherein the connection table stores protocol-specific records as (protocol, count) key-value pairs.